

guage, its origin may be vague and accidental, yet the public convenience prevents it from falling into disuse; and though it might, perhaps, be susceptible of reform, yet the benefit would not compensate the trouble. In regard to pharmacology, there is one language alone which has remained permanent amidst mutations, and which a hundred years have not been able to shake from its basis—we mean the language of commerce. This language, which is for the most part arbitrary and accidental, has seen many pharmacopœias rise and fall, and is now quite as likely as any one of them to last for a century to come. The simple names of opium and alum, of calomel and camphur, have never yielded to any periphrastic method of expressing the same things. Corrosive sublimate refuses to be modernized, and the salts of Epsom and Rochelle maintain their ground against all chemical interference. The combined learning of two hemispheres is unable to prevail against copperas and cream of tartar, and the manufacturer and merchant still continue to make, sell, and buy their tartar emetic without troubling themselves to inquire whether it is a "tartrate" or a "cream-tartrate," or neither. Nay, in some instances the vulgar appellations have turned the tables upon the classical and scientific, and the homely name of potash has dictated to the learned their more elegant potass and potassium.

To combine in practice the expressiveness and precision of one language with the durability of the other, though very desirable, would, from the nature of the subject, be impossible. Yet an approach may be made to the advantages of both, by adopting in the first instance a descriptive language founded on the existing state of science at the time, and afterwards to declare it perpetual, or at least to establish it in force during a long term of years. We shuuld thus possess a medium of communication in itself entitled to respect, and rendered more valuable by the prospect of being permanent.

It appears to us, that the stability of pharmaceutical language is a consideration of quite as much importance as its improvement. Great changes, in regard to any prevalent system, can seldom be effected without doing violence to established habits and preferences of the community. An apothecary whose drawers are labelled with the legitimate nomenclature of the day, and a physician who for a score of years has employed a uniform phraseology in his prescriptions, are not compensated by any trifling advantage, for the risk and trouble of an entire change. Wherever, therefore, it appears that a uniform system is extensively established in any country, it is incumbent on the friends of science to oppose all unnecessary deviation from the rules it prescribes. If the general progress of other sciences has been such

as to require that pharmacy should keep pace with them, its improvement ought to consist as far as possible in additions, synonyms, and commentaries; but not in great or violent changes. It is fortunate for the science of anatomy that its distinctive names have been handed down from one generation to another with so little alteration; and we believe no reformer at the present day would obtain many proselytes, who should propose to abolish its nomenclature, because os sacrum, ossa innomina, and similar names, are absurd, misplaced, or unscientific.

In regard to preparations and compositions, it may often happen that improvements are necessary in pharmacy, to promote the economy and uniformity of certain results. Such changes are highly proper, provided they do not interfere materially with the standard of strength which has been previously current. But great changes in the strength of medicines may generally be regarded as pernicious, serving to perplex apothecaries and deceive physicians, if not to kill patients. It is to be regretted that in the different pharmacopœias which have been published among us, there are operative medicines bearing the same names, in some of which the strength is double that of others. As to the more complex medicinal formulæ which crowd our books, it will be found that most of them owe their place in the shops to some fashion, or some traditional celebrity, rather than to any exclusive fitness or virtue; and we may perhaps get a true idea of their value from the consideration, that if, by any means, the knowledge of the whole of them should be lost, it is not probable, in the doctrine of chances, that one in fifty would ever be reinvented. Yet, since the prevailing traffic requires that they should continue to be made and sold, it is important for those who consume them, that they should be exempt from fluctuations of character.

In the United States, previous to 1820, there was no uniformity of pharmaceutical language. Pharmacopœias, indeed, had been adopted by medical bodies, in Massachusetts and some of the other states; and Dispensatories, both foreign and native had been published among us. But in the year referred to, an effort was made, by which the consent of a great majority of the medical institutions of the country was obtained, for a plan of a national pharmacopœia. This it was confidently hoped, by introducing a current language throughout the country, would do away the confusion which then prevailed, and offered to the parties concerned, a facility of inter-communication, corresponding to that which results from a common system of coinage, or of weights and measures. A numerous and highly respectable delegation was appointed, from most of the prin-

cipal states, a part of whom met in the city of Washington, at the appointed time.

It may here be proper to enquire what such a convention could reasonably be expected to do, and what it was their duty to do, under the circumstances in which they were placed. Coming together from remote places, and holding their session at an inconvenient sacrifice of time and expense, it was not to be anticipated that they would institute an original investigation of the whole subject. The ordeal of an experiment upon every doubtful subject, would have involved a labour of months, and perhaps of years. It would not reasonably be expected that they would produce a pharmacopœia, which should be better than any which previously existed. A debating assembly would be far less likely to do this, than a competent individual in his closet. Yet the convention possessed the power to confer a great good; a power which no individual is likely to obtain, that of introducing order in the place of confusion, and law instead of anarchy.

Under these circumstances, it was incumbent on them to produce, or sanction, some standard of pharmacy which should be adequate to the wants of the community. It was not very material what one, among many standards, they should adopt as their basis. They might have selected the Edinburgh Pharmacopœia, which, though prolix in its expressions, was at that time more current than any other in the country. Or they might have taken the London Pharmacopœia, dogged as it has been by Mr. PHILLIPS, and this would have served very well as the ground-work of a useful book. Or they might endeavour to frame a system of their own, which, in some respects, might be superior to its predecessors, or at least better adapted to the customs and wants of our own country. The last plan was decided on by the convention, under the expectation, doubtless, that it would be more acceptable to their constituents. A programme of a pharmacopeia prepared by the college of physicians in Philadelphia, was adopted as the ground-work, and after being variously modified and augmented, was referred to a committee, with instructions to publish it.

It must necessarily happen that a work emanating from so many discontented sources, a part of whose contents must, from the nature of the case, be the result of compromise among the parties concerned, rather than of satisfaction to any of them; would be in some respects imperfect, disconnected, and redundant. Nevertheless, if it was on the whole better suited to the occasion than any other work actually existing, the public were bound to receive it with complacency, as the only standard which could ever become general among us. And

if criticisms were needed to point out the faults which it contained, they should have been made in a spirit of manliness and liberality, such as would have promoted the gradual reform and perfection, rather than the overthrow of the work. But several of the journals thought otherwise, and the *pharmacopœia* was obliged to undergo an ordeal, the severity of which far exceeded its deserts. The spirit of criticism was poshed with a zeal not according to knowledge, and in many instances the ignorance of the commentator, rather than the defects of the book, produced a reprobation of its contents. Nevertheless, the *pharmacopœia* was received, willingly by some, and reluctantly by others, and became, we have reason to believe, the prevailing standard, or at least, more prevalent than any other throughout the United States.

It was to be hoped, that when the period should arrive, which had been assigned by the convention for a revision of this work, a sufficient unanimity of sentiment woold have prevailed, to direct into one channel whatever amount of skill and experience might be volunteered for its improvement, either by societies or individuals. It appears that numerous societies, in different parts of the union, feeling an interest in the revision and confirmation of the *pharmacopœia*, had appointed delegates to attend the expected convention at Washington in 1830. A part of the delegates thus designated were, agreeably to the provisions made in 1820, returned to the presiding officer of that year. But a greater number, who had not been formally returned, proceeded to Washington at the appointed time, and having organized a convention of such delegates as were present, and invited the coöperation of other medical gentlemen of eminence then in the city, proceeded to take measures for the republishing of the work. In the mean time, a part of the delegates who had been officially returned to the former president, influenced either by convenience, or by the smallness of their numbers, determined not to convene at Washington, but held a meeting in New York, where they also proceeded to take measures for republishing the *pharmacopœia*, having likewise invited the coöperation of other medical gentlemen of note. Out of this want of concord have risen up two *pharmacopœias*, neither of which can strictly claim to be, by lineal descent, the legitimate heir of the original work; one, proceeding from a body not formally declared elected to the convention at Washington; the other, from a body who did not convene at Washington at all. We regret, during the long period of preparation, in which the proceedings of each party must have been known to the other, at least in a degree, that some compromise was not effect-

ed, so that the objects of both might be effected, with less trouble to themselves, and less expense to the public. It was not indeed in the power of the delegates at Washington to correct the original defect in their mode of election, but it was in the power of the delegates of New York to have gone to Washington, and there to have invited the coöperation of the other delegates present, especially as they appear not to have been afterwards fastidious in associating with their own body, undelегated individuals. Even after the original meetings had taken place, a slight spirit of conciliation in one or both parties, (we know not which was wanting in this respect,) would have produced harmony and unity in the end.

As things now are, it appears to us that the two works must stand upon their respective merits, as pharmacentie compositions; and the public are called on to decide, whether either, and if either, which one, is entitled to be received as the national standard. And here, if it be asked what constitutes fitness or excellence in a pharmacopœia, we should answer simply, that such a work ought to contain and identify the medicines which are commonly used by physicians, that its preparations should be scientifically composed, that its language should conform to the most current language of the day, and that it should be complete as a system in itself, that is, should have a correspondence between its own parts. In these respects we think the Washington Pharmacopœia has greatly the advantage of its competitor. We observe in its list of *materia medica*, comparatively few alterations of names, and these are made mostly in conformity to the present language of chemistry. In the New York edition, the changes are exceedingly numerous, the new names being taken partly from the London Pharmacopœia, and partly invented for the occasion, so that the book has the aspect of an edition of some other work, rather than of the American Pharmacopœia. The references to authors, which are considered necessary by most pharmacologists, to identify the substances intended, are wholly omitted in this work. In regard to completeness and accuracy, the work of the Washington convention is prepared with much care and science, and with a correspondence of its different parts. In the New York edition we find a want of unity, such as attends hasty preparations, and a discordance often recurring, between the names of the articles themselves and those of their preparations.

In regard to the latter work, knowing the difficulties which attend this species of composition, and entertaining a high respect for the character of the gentlemen concerned, we forbear to fill our pages with commentaries on its redundancies and discrepancies. We shall

not therefore complain because Burgundy pitch is inserted twice under different names, in the *materia medica*, nor because the sulphates of quinine and morphine, figs, prunes, and some other articles required in the preparations, are not inserted in the *materia media* at all. These things must be corrected with their pens, by those who may employ the book. On the other hand we are happy to perceive some improvements on the edition of 1820 in the greater accuracy of the chemical nomenclature, and in the introduction of some useful formulas. We think however that retrenchment, in the old work, was much more needed than augmentation.

Believing that the *pharmacopœia* produced by the Washington convention, being a more elaborate, accurate, and finished work, will eventually become the standard of the country; we propose to enter somewhat more at large into the consideration of its contents. This we shall endeavour to do with the impartiality which the subject ought to receive.

In their preface this convention express their reasons for adopting as their basis the *Pharmacopœia* of 1820, a work having many inconveniences and defects, but at the same time many claims to approval. In its general outline, say they, and prominent features, it will bear a favourable comparison with the best *pharmacopœias* of Europe, and it is only in filling up, that improvement is demanded, or admissible. The changes therefore which have been made under the authority of the late convention, embrace the materials and minor arrangements, without extending to the general plan. In preparing for the press the present revised edition, the new convention inform us, that much labour has been expended, and every part of the work submitted to the most strict and rigid scrutiny. Every accessible pharmaceutical authority has been consulted, and the accuracy of processes has been frequently tested by a practical investigation; the several departments have engaged the attention of individuals peculiarly qualified by their previous studies, and the whole has passed the examination of pharmaceutists of acknowledged eminence in their profession.

Considering how difficult it is to induce persons of the necessary competency to engage in gratuitous labours with perseverance and fidelity, we are happy that the individuals concerned in the present revision, have devoted themselves with such singleness of purpose to the perfecting of the work. From our knowledge of the amount of labour actually bestowed on it, and from the internal evidences which it bears of extensive enquiry and precise examination, we

doubt whether any future convention will present us with results more deserving of the public confidence.

In pursuance of the plan of the former edition, and for reasons which it is not necessary here to repeat, the pharmacopœia is written out on opposite pages in Latin and in English. The classical latinity of the London Pharmacopœia is adopted as a standard, and by keeping this in view, a unity of style is preserved throughout the book. We see no cause to be dissatisfied with the general purity and elegance of this language, though in one case, we observe, the convention have erroneously followed the London example, in using the genitive "*rosmarini*," and ablative "*rosmarino*," instead of the undoubted *rorismarini*, and *rōremarino*, sanctioned by HORACE, COLUMELLA, and other classics.

In regard to names, the convention informs us in their preface, that for reasons which they discuss at length, they have adopted the modern chemical nomenclature, in which the names are expressive of the composition of bodies. This was in most cases done by the framers of the former pharmacopœia, but in the present edition an attempt has been made to bring the nomenclature more completely into accordance with the best scientific usage. Thus we have *chloride of sodium*, instead of *muriate of soda*; *ferrocyanate of iron*, instead of *prussiate of iron*, &c. In a few instances, however, to avoid great circumlocution, a pharmaceutical name is retained in the place of a more expressive chemical appellation, as in the case of alum, hydrargyrum, ammonium, &c. In conformity with the present language of chemistry, the proportional composition of bodies, it appears, is intended to be expressed, and we have among other things a *bicarbonate of potass*, and a *bicarbonate of soda*. But this intention is not always executed throughout the work, which seems to us a defect in uniformity. The substance called by this convention sulphate of copper, is a bisulphate, and ought so to be called in a chemical nomenclature, since there is another sulphate, composed of one equivalent of acid and one of peroxide of copper, which is precipitated by adding pure potass to the solution of the bisulphate above mentioned, in a quantity insufficient for separating the whole of the acid.

We know not for what reason it has been thought proper to omit, as synonyms, certain commercial names of common usage, while others of much less frequent occurrence, are retained. The student of pharmacy who would know what is meant by Epsom salt, Glauber's salt, blue vitriol, and other names which meet him in the daily price-current, must seek for information in other books, than the American Pharmacopœia. These names being international, and long establish-

ed, cannot, we think, with propriety be given up, in a work of general pharmacy.

In the nomenclature of substances derived from the vegetable kingdom, the work before us adheres to the simple and appropriate plan of the first edition, that of using in all practicable cases, a single word for the name of the drug, leaving its nature and origin to be defined in the opposite column. This peculiarity of the American Pharmacopœia is one of its leading excellencies, and one which the New York convention seem to have acted unwisely in abandoning. Most of the names used in other pharmacopœias, to express vegetable substances, are either unwieldy in their length, or improper in their application. Thus the drug *assafœtida* is called by the Edinburgh college *gummi resina ferulæ assafœtidæ*, a name which is highly descriptive, but inapplicable to common use. By the London college it is called *assafœtidæ gummi resina*; but as the term *assafœtida* alone is not the name of any plant, in any botanical system of the present day, the whole name is incorrectly composed. The simple name of the drug, *assafœtida*, is undoubtedly better than either. In like manner *columbo* may be called by the simple name *colomba*, or by the circuitous name *cocculi palmati radix*, but not *calumbæ radix*, for there is no such plant as *calumba*. The American Pharmacopœia has another advantage in using simple names, whenever the drug happens to be derived from several plants, as camphor, senna, rheum and aloe, or from several animals, iehthyocolla. In the present edition, a slight variation is made from the former, in using the Latin name of the article always in the singular number; as *cantharis*, *caryophyllus*, *prunum*, instead of *eantharides*, &c. This method preserves uniformity, and is supported by the usage of CELSUS in similar cases.

As in the former edition, the *materia medica* list is divided into two columns, the first of which contains the officinal name of each article, in Latin and English, together with occasional synonyms; while the other defines the substance intended, and gives explanatory references. This part of the work gives evidence of a laudable degree of care and research, yet we notice a few minor things deserving of remark. The substance called *lupulin*, derived from the hop, is defined "strobilorum pollen." As the word pollen has, in vegetable physiology, a specific meaning, it would have been better to have used some other name, to express powder. In the Latin, *lupulia* as used by the New York convention, is more consonant to *morpbia* and *quinia*, than *lupulina*. We see no reason for giving up *spermaceti*, the universally received name, both in chemistry and commerce, and

substituting *cetaccum* of the London college, a word which is neither more classical, nor more definitive. *Scabious* applied to *erigeron*, is a provincial misnomer, that name belonging only to *Scorbiosa*.

In regard to preparations, the convention considering this the most extensive and important part of the work, have devoted to it a greater share of their attention. They inform us that examination has been carried into all its parts, and not a single process has been allowed to escape a close scrutiny. One of the most prominent defects of the original pharmacopœia was a want of uniformity, both in the manner of conducting the processes, and in the style of describing them. This arose from the variety of sources from which materials were drawn, and the want of due time to remould and shape them, so as to produce a harmonious whole. In the present edition, an effort has been made to supply these deficiencies, and to produce uniformity of language, as well as correspondence and unity of design, in the different parts of the work. In the selection of the process for each preparation, two principles are stated to have governed the choice of formulæ, independent of their intrinsic merit, which, when superior, has always been allowed a predominating influence. When two or more methods of preparing the same compound, equally meritorious in themselves, have come under consideration, that has been preferred which has united in its favour, the widest prevalence in this country, and the sanction of the majority of the British pharmacopœias. It is considered highly desirable, that uniformity in the preparation of medicines should everywhere prevail, for the benefits accruing from the mutual interchange of the medical writings of different civilized nations, must be greatly affected by any material difference in the nature or composition of the remedies employed. This remark is especially applicable to Great Britain and the United States, and to all countries where the English language is generally used. It is a duty, therefore, say the convention, which we owe to the cause of pharmacy, to throw our weight into the scale which already preponderates, and thus contribute to the production and maintenance of the desired uniformity.

In those cases where the chemical formulæ of the original pharmacopœia have been found to be defective or objectionable, their place has been supplied by more accurate and practicable rules, founded on a course of careful investigations. In this way, the economy and uniformity of certain processes is greatly promoted. New preparations, which have been brought to light by the uncommon progress of pharmaceutical investigations, during the last dozen years, are, in va-

rious instances, inserted. Such are the preparations of iodine, quinine and morphine. The convention, however, have shown a wise forbearance, in not crowding their book with the host of new articles, often, we apprehend, more curious than useful, which modern chemistry has been enabled to extort from vegetable drugs. Retrenchment has been freely exercised in lopping off many of the superfluous formulas, which a necessity for hasty compromise had caused to be introduced into the pages of the old pharmacopœia; and, among other articles dismissed, is the acetum opii, or black drop, a revived piece of antiquity, wasteful in its composition, and utterly uncertain in its strength; the place of which is now better supplied by the acetated tincture of opium, and the acetate of morphia. For ourselves, by the way, we lean to the opinion, that opium, to produce its full benefit, must be opium still, and we are not sure that any of the artificial salts of morphia, are better than the natural meconate. We have seen delirium tremens brought on under the use of denarcotized laudanum. If the crude drug were cumbersome from the bulk necessary to form a dose, as in the case of cinchona, it would be highly useful to reduce its active ingredient into a smaller compass. But this is not the case with many of the narcotics.

Very complex medical formulas, such as abound among the old writers, and still encumber the pages of many of the pharmacopœias, we deem to be a superfluous appendage to medical science. One of the greatest modern improvements, is found in the simplification of medical prescriptions. The art of prescribing appears to us a more simple affair than it has been represented by the hypercritical pedantry of Dr. PARIS. We admit that adjuvants will help, and that corrigents will correct; nevertheless, we find that castor oil, ipecac, and opium, will often do their duty without either. In admitting the influence of chemical considerations, in the exhibition of medicines, it is important to recollect that the stomach has a chemistry of its own, and that the digestive organs exert a material control over the force of ordinary chemical agents; separating elements which have strong mutual attractions, and dissolving bodies which are insoluble in common menstrua. We ought by no means to consider medicines inert, in proportion as they are insoluble, for we have a proof to the contrary, in calomel. Nor are we to consider those substances medicinally incompatible, which if mixed out of the body, occasion a precipitate, or a change of colour. What incompatible, we would ask, destroys the effect of opium, arsenic, or cantharides?

Another consideration which has great weight with writers on

chemistry and pharmacy, is the exactness and precision of the quantities employed in their preparations. This circumstance, although of great consequence in strictly chemical compounds, is less so in arbitrary mixtures; and in the administration of simpler medicines, its importance diminishes still further. Practical physicians know, that a degree of accuracy, approaching nearer than within a fifth or sixth part of the amount desired for producing a given effect, is seldom attainable. Apothecaries divide their pills and powders by the eye, and patients take liquids by drops and spoonfuls. Nay, that physician must possess uncommon shrewdness, who even after apportioning his dose by the most accurate weight and measure, can foretell with certainty, how or when, how much or how often, it is going to operate. The stomachs of different patients, and those of the same patient at different times, vary more, if possible, than the samples of the same drug in commerce.

On these accounts we feel but little concern for the changes which the convention have thought proper to make in the character or strength of preparations and compositions, so long as they do not exceed the limits above mentioned. But in a few cases we observe that the strength has been altered in the proportion of two to one, or vice versa, and of such changes we propose to take notice. The vinum antimonii, which in the old edition contained four grains to the fluid ounce, in this edition contains but two, and is therefore reduced in strength one-half. We object to this change, because the stimulating character of the menstruum is incompatible with the indications for which antimony is generally administered, and we apprehend that a glass or two of Teneriffe wine would do no good to a man in apoplexy, or incipient fever. The wine indeed, ought to bear as small a proportion as possible to the operative medicine, and if the London college is followed in lessening the proportion of antimony, it should also have been followed in diluting the wine largely with water. The vinegar and syrup of squill are increased to twice their former strength, a change in itself of no consequence, when the public shall have learned to regulate the dose. Liniment of ammonia is reduced to one quarter of its former strength. Can this preparation ever be too strong for the purposes to which it is applied?

In a work so generally uniform and consentaneous in its parts as the American Pharmacopœia, we would willingly have dispensed with such names as pulvis aromaticus and pilulæ catharticæ compositæ. These names designate nothing which is not common to a thousand other combinations.

A few things are omitted in this edition, which we would have willingly seen retained; but we are not disposed to censure on this account, since in that instance, as well as in the case of objectionable formulæ, the evil may generally be remedied by extemporaneous prescription. Every man has his particular taste and judgment, and *de gustibus non disputandum*. In the wine of antimony, to which we have objected, the evil is remedied by extemporaneous solutions in water, which are far preferable to those in wine. Even though a pharmacopœia should arrive at the highest and most unquestioned point of excellency, still physicians would suit themselves with formulas of their own adapted to particular cases. We apprehend that most practitioners pass their lives in ignorance of half the contents of pharmaceutical works. For ourselves, not being particularly given to hyper-practice, we should feel a strong sentiment of pity for the patients of that physician whose yearly rounds involved the application of a whole pharmacopœia.

To conclude, having indulged somewhat freely in our remarks on the national work produced by the convention at Washington, we proceed to make the *amende honorable*, by declaring our conviction, that it is on the whole superior to any of the European pharmacopœias with which we are acquainted, that it is better suited to the wants of the American community than any work of the kind which has been published among us, that it has emanated from a larger delegation and has undergone a more rigorous supervision than any similar production of the day, and that, therefore, it ought to become the standard of the United States. In conformity with the views expressed in the first part of this article, we also hope, that, to relieve the profession from the annoyance of incessant fluctuations, the contents of this book will be respected by all future conventions as something solid and permanent; and that if, as the edifice grows old, it shall be found to need repairs, enlargement, or modern decorations, still that its foundations may not be wantonly assailed, and that its walls may stand as a landmark and a barrier against the confusion of fluctuating language.

J. B.